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A Declining Natural Population: Recent Michigan Birth & Death Data

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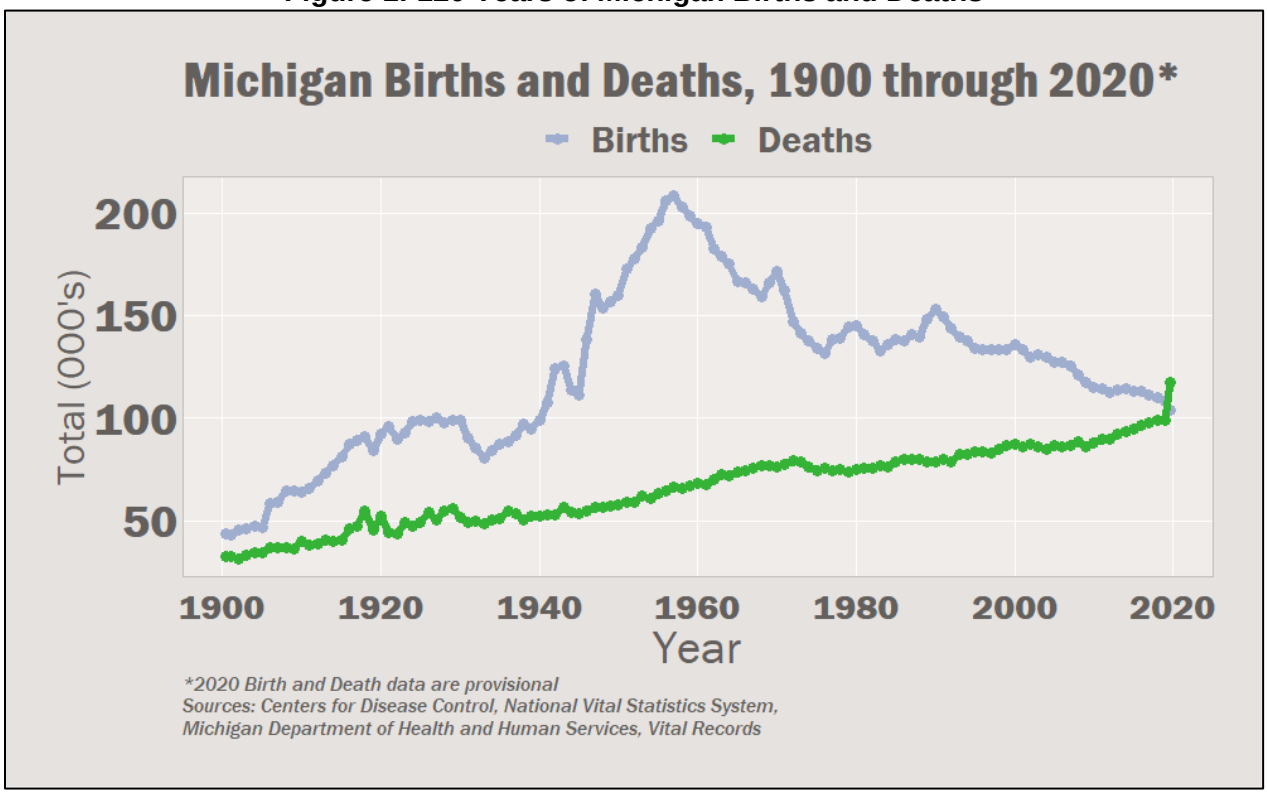
Based on provisional birth and death data for 2020, Michigan's natural population will shrink for the first time since 1900. Provisional Centers for Disease Control data show that in 2020, there were 103,846 births and 117,113 deaths.[1] "Natural population" means only annual live births and deaths and excludes any domestic or international migration into the State. Michigan's decline in natural population is the result of a continuation of existing trends that were hastened by the COVID-19 pandemic: fewer births and greater deaths. As shown in Figure 1, the number of births in Michigan peaked in the years after World War II. In 1957, births in Michigan peaked with 208,488 births. Deaths have increased through the data period; the five years with the highest number of recorded deaths are 2016 through 2020, with an 18.2% increase between 2019 and 2020. This is the largest year-over-year percentage increase in the data. The second largest annual percentage increase in deaths in Michigan was during 1918, with a 15.6% increase in deaths as a result of the influenza pandemic.

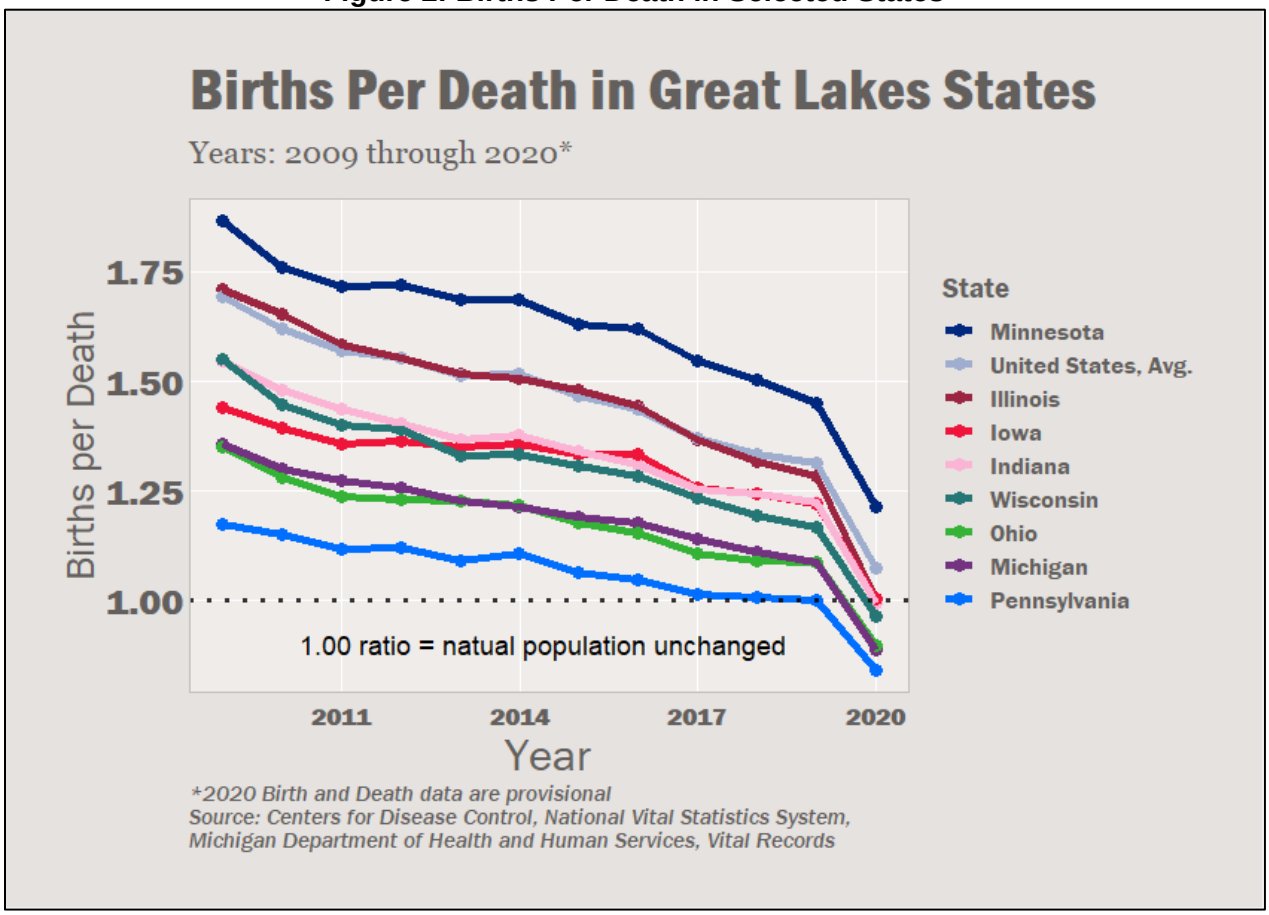
Figure 1: 120 Years of Michigan Births and Deaths



From 2009 to 2019, the number of births in Michigan dropped by 8.7%. In 2020 alone, there was a 3.9% decline in births. From 2009 to 2019, the average yearly number of births declined by 1,210, but in 2020 the decline in births increased more than three times as much to 4,071 births. From 2009 to 2019, the number of deaths increased from 86,455 to 99,084, an average increase of 1,262 deaths, compared with the increase in 2020 of just over 18,000 deaths.

One metric used to standardize changes in population across geographic areas is the "births-per-death" ratio. In 2020, Michigan's births-per-death ratio is projected at 0.89, the first time it has been recorded below 1.0. The births-per-death ratio in Michigan peaked in 1954 with a ratio of 3.16. Since then, there has been a gradual decline in births while deaths have been on a slow and steady increase. As shown in Figure 2, the average ratio for the United States for 2020 is just over the 1.0 figure at 1.07. Comparing the 2020 births-per-death ratio in Michigan to the United States as a whole and other Great Lakes states, Michigan's ratio is relatively low. Minnesota is above the national average at 1.21, while Illinois and Iowa are at ~1.0. Indiana and Wisconsin are at 0.99 and 0.97, respectively.

Figure 2: Births Per Death in Selected States



When looking over the trends from 2009 to 2020, the largest decline in the births-to-death ratio in the Great Lakes states was Illinois with a decline of 0.70 births for every death, with the ratio for the United States as a whole decreasing 0.62 births per death. Michigan does a bit better in comparison (in relative terms) with a decline of only 0.47 births from 2009 to 2020. This reflects the fact that Michigan's birth rate slowed earlier than the rest of the country, starting in the late-1990s/early-2000s.

It is not yet clear whether the dramatic acceleration of existing trends observed in 2020 will continue. Before 2020, based on pre-COVID-19 trends, the first year of negative natural population growth in Michigan was projected to be around 2023. Since 2000, there have been only five years with an increase in the number of births and only one year, 2003, in which the growth was at least 1.0%. Over the past 120 years (excluding 2020) in the year following eight out of the 10 periods with the largest increase in deaths, there was a decline in the number of deaths, so it is possible that 2021 deaths will decrease from 2020 levels. The question remains, however, whether the decrease in births will remain on the new increased downward trend or whether they will "bounce back" to the former trend.

[1] Centers for Disease Control, National Vital Statistics System, Births: Provisional Data for 2020; Centers for Disease Control, National Vital Statistics System, Provisional Mortality Data — United States, 2020.